

AMENDMENTS TO THE CLAIMS

1. (CURRENTLY AMENDED) A An aircraft position light for use on an aircraft, comprising:

 a an aircraft position light housing structure, wherein said aircraft position light housing structure is formed to fit within a wing or a fuselage of an aircraft;

 at least one light source arranged inside said aircraft position light housing structure;

 a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism; and

 a lens through which emitted light passes, wherein said lens is engaged with the aircraft position light housing structure and light emitted by said light source is capable of passing through said lens.

2. (CURRENTLY AMENDED) The aircraft position light of claim 1, wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transflective face of said prism and a second portion of the light emitted from said light source is transmitted through said transflective face, the combination of said first and second portions of light

producing a lighting pattern with a sharp angular cutoff corresponding to the critical angle for said total internal reflection at said transflective face.

3. (CURRENTLY AMENDED) The aircraft position light of claim 1, further comprising an alignment guide for aligning said light source to direct said light source.

4. (CURRENTLY AMENDED) The aircraft position light of claim 3, wherein said alignment guide further includes means for carrying away heat generated by said light source.

5. (CURRENTLY AMENDED) A An aircraft position light ~~for use on an aircraft~~, comprising:

a an aircraft position light housing structure, wherein said aircraft position light housing structure is formed to fit within a wing or a fuselage of an aircraft;

at least one light source arranged inside said aircraft position light housing structure;

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism;

a lens through which emitted light passes, wherein said lens is engaged with the aircraft position light housing structure; and

means for controlling the amount of electrical current applied to said light source.

6. (CURRENTLY AMENDED) The aircraft position light of claim 5, wherein said current control means is one of located inside said aircraft position light housing structure and located remotely from said aircraft position light housing structure.

7. (CURRENTLY AMENDED) The aircraft position light of claim 5, wherein said current control means includes means for modulating the intensity of said light source.

8. (CURRENTLY AMENDED) The aircraft position light of claim 1, wherein said light source emits one of a green, red, and white light.

9. (CURRENTLY AMENDED) The aircraft position light of claim 4 1,
wherein said at least one light source comprises a plurality of light sources.

10. (CURRENTLY AMENDED) The aircraft position light of claim 9,
wherein said light sources comprise a plurality of colors.

11. (CURRENTLY AMENDED) The aircraft position light of claim 9,
wherein said light sources comprise a plurality of angular distributions of light.

12. (CURRENTLY AMENDED) The aircraft position light of claim 9,
wherein said light sources are electrically connected in series.

13. (CURRENTLY AMENDED) The aircraft position light of claim 9,
wherein said light sources are electrically connected in series-parallel.

14. (CURRENTLY AMENDED) A An aircraft position light ~~for use on an~~
aircraft, comprising:

a an aircraft position light housing structure, wherein said aircraft
position light housing structure is formed to fit within a wing or a fuselage of
an aircraft;

at least one light source arranged inside said aircraft position light housing structure; wherein said light source is solid state;

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism; and

a lens through which emitted light passes, wherein said lens is engaged with the aircraft position light housing structure.

15. (CURRENTLY AMENDED) The aircraft position light of claim 1, further comprising an optical filter between said at least one light source and said input face of said prism to condition the light emitted by said light source.

16. (CURRENTLY AMENDED) The aircraft position light of claim 1, further comprising at least one diffuser between said at least one light source and said input face of said prism to further condition and distribute the light emitted by said light source.

17. (CURRENTLY AMENDED) The aircraft position light of claim 1, further comprising a second prism within said aircraft position light housing

structure having an input face, an output face, and a transflective face to further shape and direct the light emitted by said light source.

18. (CURRENTLY AMENDED) The aircraft position light of claim 17, further including facets on the input face of said second prism.

19. (CURRENTLY AMENDED) The aircraft position light of claim 18, wherein said facets are one of flat and curved.

20. (CURRENTLY AMENDED) A position light ~~for use on an aircraft~~, comprising:

a housing structure;

at least one light source arranged inside said housing structure;

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism;

a lens through which emitted light passes, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens; and

a second prism within said housing structure having an input face, an output face, and a transflective face to further shape and direct the light emitted by said light source, said second prism further including facets on said faces of said second prism.

21. (CURRENTLY AMENDED) The aircraft position light of claim 1, wherein said prism includes facets on the input face of said prism.

22. (CURRENTLY AMENDED) The aircraft position light of claim 21, wherein said facets are one of flat and curved.

23. (CURRENTLY AMENDED) A position light ~~for use on an aircraft~~, comprising:

a housing structure;

at least one light source arranged inside said housing structure;

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light source, said light source being located externally to said prism; and

a lens through which emitted light passes, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of

passing through said lens, said prism further including facets on all faces of said prism.

24. (CURRENTLY AMENDED) A solid state aircraft position light ~~for use~~
~~on an aircraft~~, comprising:

a aircraft position light housing structure, wherein said aircraft position light housing structure is formed to fit within a wing or a fuselage of an aircraft;

a plurality of solid state light sources arranged inside aircraft position light housing structure;

an alignment guide for aligning said solid state light sources to direct said light sources;

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said solid state light sources, said light sources being located externally to said prism;

means for controlling the amount of electrical current applied to said solid state light sources; and

a lens through which emitted light from said light sources passes, wherein said lens is engaged with the aircraft position light housing structure.

25. (PREVIOUSLY PRESENTED) A position light for use on an aircraft, comprising:

a housing structure;

a plurality of light sources arranged inside said housing structure, wherein said light sources are electrically connected in series-parallel;

an alignment guide aligning said light sources to direct said light sources;

means for carrying away heat generated by said light sources;

an optical filter for further conditioning the light emitted from said light sources;

a diffuser for further conditioning and distributing the light emitted from said light sources;

a first prism having an input face, an output face, and a transflective face to receive, distribute, and direct light emitted by said light sources, said light sources being located externally to said first prism, said first prism including facets on said input face;

a second prism having an input face, an output face, and a transflective face to further shape and direct the light emitted by said light sources, said second prism including facets on said input face;

means for controlling the amount of electrical current applied to said light sources; and

a lens through which emitted light passes, wherein said lens is engaged with the housing structure.

26. (CURRENTLY AMENDED) A An aircraft position light fitted within a wing or fuselage of an aircraft for use on an aircraft, said aircraft position light comprising:

a prism having an input face, an output face, and a transflective face to receive, distribute, and direct light; and

at least one solid state light source wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transflective face of said prism and a second portion of the light emitted from said light source is transmitted through said transflective face, the combination of said first and second portions of light producing a lighting pattern with a sharp angular cutoff corresponding to the critical angle for to said total internal reflection at said transflective face.

27. (CURRENTLY AMENDED) The aircraft position light fitted within the wing or the fuselage of claim 26 26, wherein the light emitted from said light

source forms a continuum of incident angles of light on said transflective face such that some light exceeds the critical angle of total internal reflection for said prism, some light is at the critical angle of said is prism, and some light does not exceed the critical angle of said prism.

28. (CURRENTLY AMENDED) A process for providing aircraft position lighting for use on an aircraft, comprising:

providing a aircraft position light housing structure within a wing or a fuselage of an aircraft;

placing at said aircraft position light housing structure at least one light source;

applying electrical current to said at least one light source;

receiving, distributing, and directing light emitted from said light source by a prism having an input face, an output face, and a transflective face, said light sources being located externally to said prism; and

passing the emitted light through a lens, wherein said lens is engaged with the housing structure and light emitted by said light source is capable of passing through said lens after passing through said output face.

29. (CURRENTLY AMENDED) The process of claim 28 28, wherein a first portion of the light emitted from said light source undergoes total internal reflection at said transflective face of said prism and a second portion of the light emitted from said light source is transmitted through said transflective face, the combination of said first and second portions of light producing a lighting pattern with a sharp angular cutoff corresponding to the critical angle for said total internal reflection at said transflective face.

30. (ORIGINAL) The process of claim 28, further comprising the steps of providing a second prism having an input face, an output face, and a transflective face and arranging said second prism at the transflective face of said prism to further shape and direct the light emitted by said light source.

31. (ORIGINAL) The process of claim 28, further comprising the step of providing facets on the input face of said prism.

32. (CURRENTLY AMENDED) A process for providing lighting for use on an aircraft, comprising:

providing a housing structure;

placing at said housing structure at least one light source;

applying electrical current to said at least one light source;
receiving, distributing, and directing light emitted from said light source
by a prism having an input face, an output face, and a transflective face, said
light sources being located externally to said prism;

~~The process of claim 31, further comprising the step of including facets~~
~~on all faces of said prism; and~~

passing the emitted light through a lens, wherein said lens is engaged
with the housing structure and light emitted by said light source is capable of
passing through said lens after passing through said output face.

33. (ORIGINAL) The process of claim 32, further comprising the step of
shaping said facets to one of flat and curved shapes.

34. (ORIGINAL) The process of claim 30, further comprising the step of
providing facets on the input face of said second prism.

35. (CURRENTLY AMENDED) A process for providing lighting for use on
an aircraft, comprising:

providing a housing structure;

placing at said housing structure at least one light source;

applying electrical current to said at least one light source;
receiving, distributing, and directing light emitted from said light source
by means of a prism having an input face, an output face, and a transflective
face, said light sources being located externally to said prism;
providing a second prism having an input face, an output face, and a
transflective face and arranging said second prism at the transflective face of
said prism to further shape and direct the light emitted by said light source;

~~The process of claim 34, further comprising the step of including facets~~
~~on all faces of said second prism; and~~

passing the emitted light through a lens, wherein said lens is engaged
with the housing structure and light emitted by said light source is capable of
passing through said lens after passing through said output face.

36. (CURRENTLY AMENDED) The process of claim 28, further comprising the step of controlling said electrical current at one of from inside said aircraft position light housing structure and remotely from said aircraft position light housing structure.

37. (CURRENTLY AMENDED) A process for providing position lighting for use on an aircraft, comprising:

providing a an aircraft position light housing structure within a wing or a fuselage of an aircraft;

placing at said aircraft position light housing structure a plurality of solid state light sources that are aligned to direct said light sources;

applying and controlling electrical current to said solid state light sources;

receiving, distributing, and directing light emitted from said solid state light sources by a prism having an input face, an output face, and a transflective face, said light sources being located externally to said prism; and

passing the emitted light through a lens, wherein said lens is engaged with the aircraft position light housing structure.

38. (CURRENTLY AMENDED) A process for providing position lighting ~~for use on an aircraft~~, comprising:

providing a housing structure having an interior surface;

placing at said housing structure a plurality of light sources that are aligned to direct said light sources, said light sources electrically connected in series-parallel;

aligning said light sources to direct said light sources;

carrying away heat generated by said light sources;

optically filtering light from said light sources;

diffusing light from said light sources;

receiving, distributing, and directing light emitted from said light sources by a first prism having a faceted input face, an output face, and a transflective face, said light sources being located externally to said first prism;

shaping and directing the light emitted by said light sources by means of a second prism disposed at the transflective face of said first prism and having a faceted input face, an output face, and a transflective face;

applying and controlling electrical current to said light sources; and

passing the emitted light through a lens, wherein said lens is engaged with the housing structure.

39. (CURRENTLY AMENDED) A process for providing aircraft position lighting for use on an aircraft, comprising:

providing at least one solid state light source within a wing or a fuselage of an aircraft;

applying electrical current to said light sources; and

receiving, distributing, and directing light emitted from said light source by a prism having an input face, an output face, and a transflective face, wherein a first portion of the light emitted from said light source undergoes

Docket No. 2929-0182P

Appl. No. 09/886,548

Art Unit: 2875

Amendment dated May 7, 2004

Reply to Office Action of February 5, 2004

Page 18 of 31

total internal reflection at said transflective face of said prism and a second portion of the light emitted from said light source is transmitted through said transflective face, the combination of said first and second portions of light producing a lighting pattern with a sharp angular cutoff corresponding to the critical angle for said total internal reflection at said transflective face.

40. (CURRENTLY AMENDED) The process of claim 39 39, wherein the light emitted from said light source forms a continuum of incident angles of light on said transflective face such that some light exceeds the critical angle of total internal reflection for said prism, some light is at the critical angle of said prism, and some light does not exceed the critical angle of said prism.